

AN 111:63755 CA  
 TI Cationic and amphoteric polymers with conditioning effect for \*\*\*hair\*\*\*  
 preparations  
 IN Mori, Kyoharu; Yamamoto, Koji  
 PA Gooch Chemical, Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
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 LA Japanese  
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1, 2, 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01092211	A2	19890411	JP 1987-250360	19871003
	JP 06051617	B4	19940706		
PRAI	JP 1987-250360		19871003		

AB Cationic and amphoteric polymers having quaternized structure repeating units CH<sub>2</sub>CR<sub>1</sub>(COA<sub>1</sub>R<sub>2</sub>N+R<sub>3</sub>Me<sub>2</sub>X-) [R<sub>1</sub> = H, Me; R<sub>2</sub> = C<sub>1</sub>-4 alkylene; R<sub>3</sub> = C<sub>1</sub>-4 alkyl, CH<sub>2</sub>Ph, CH<sub>2</sub>CH<sub>2</sub>OH, glycidyl, CH<sub>2</sub>CH(OH)Me, CH<sub>2</sub>CH(OH)(OCH<sub>2</sub>CH<sub>2</sub>)nOH; A<sub>1</sub> = O, NH; X = Br, Cl, I, MeSO<sub>4</sub>, EtSO<sub>4</sub>; n = 1-9] 5-60, amphoteric structure repeating units CH<sub>2</sub>CR<sub>4</sub>(COA<sub>2</sub>R<sub>5</sub>N+R<sub>6</sub>Me<sub>2</sub>CO<sub>2</sub>-) (R<sub>4</sub> = H, Me; R<sub>5</sub>, R<sub>6</sub> = C<sub>1</sub>-4 alkylene; A<sub>2</sub> = O, NH) 95-40, and other structure repeating units 0-50 mol%, have good conditioning effect and are useful for \*\*\*hair\*\*\* preps. The polymers are compatible with anionic compds., do not build up on \*\*\*hair\*\*\*, reduce electrostatic charge, and facilitate combing and styling. A shampoo contained 30% aq. cocoamidopropyl betaine soln. 10, 27% aq. poly(oxyethylene) lauryl ether sulfate triethanolamine salt soln. 10, cationic and amphoteric polymer [av. mol. wt. 120,000, prepd. from (dimethylamino)propyl methacrylate 1.0, EtBr 0.05, and ClCH<sub>2</sub>CO<sub>2</sub>K 0.95 mol] 1, and H<sub>2</sub>O to 100 parts by wt.

IC ICM C08F220-34  
 ICS A61K007-06; A61K007-075; C08F220-34; C08F220-36

ICI C08F220-34, C08F220-36; C08F220-36, C08F220-34

CC 62-3 (Essential Oils and Cosmetics)

ST \*\*\*cationic\*\*\* \*\*\*amphoteric\*\*\* \*\*\*polymer\*\*\* \*\*\*hair\*\*\*  
 prepn conditioner

IT Shampoos  
 (cationic and amphoteric polymers in, with good conditioning effect)

IT \*\*\*Hair\*\*\* preparations  
 (conditioners, cationic and amphoteric polymers in)

IT 74-96-4D, Ethyl bromide, reaction products with dimethylamino-contg. methacrylic polymers and monochloroacetic acid salts 540-51-2D, Ethylene bromohydrin, reaction products with dimethylamino-contg. methacrylic polymers and monochloroacetic acid salts 540-54-5D, Propyl chloride, reaction products with dimethylamino-contg. methacrylic polymers and monochloroacetic acid salts 7748-25-6D, Potassium monochloroacetate, reaction products with quaternized amino-contg. methacrylic polymers 24145-67-3D, reaction products with quaternized amino-contg. methacrylic polymers 26658-83-3D, Butyl methacrylate-(dimethylamino)ethyl methacrylate copolymer, reaction product with alkyl halides and monochloroacetic acid salts 29531-62-2D, reaction product with alkyl halides and monochloroacetic acid salts 53466-45-8D, reaction product with alkyl halides and monochloroacetic acid salts 121859-51-6D,

reaction product with alkyl halides and monochloroacetic acid salts

RL: BIOL (Biological study)

( \*\*\*hair\*\*\* preps. contg., with good conditioning effects)